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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,769	11/07/2007	George Bertram	034017R016US	7872
441 7590 01/05/2012 SMITH, GAMBRELL & RUSSELL 1130 CONNECTICUT AVENUE, N.W., SUITE 1130 WASHINGTON, DC 20036			EXAMINER SHEARER, DANIEL R	
			ART UNIT 3754	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/591,769

**Applicant(s)**

BERTRAM ET AL.

**Examiner**

DANIEL R. SHEARER

**Art Unit**

3754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 October 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 1-20, 22-26, 28-34 and 38-45 is/are pending in the application.
- 5a) Of the above claim(s) 22-26, 28-34 and 38-41 is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-20 and 42-45 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-856)  
Paper No(s)/Mail Date 10/25/2011
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3, 5, 9, 12, 18, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,246,143 to Cherfane in view of U.S. Patent No. 6,283,329 to Bezaire et al. (Bezaire).

Cherfane shows a hand held dispenser (Fig. 3), comprising a handle (28), a dispense material manifold (12) supported by the handle, and a dispense material mixing module (18) supported at a forward dispensing end of the manifold. The mixing module having a dispense material passageway (164) that opens out to a dispenser outlet (166). The dispenser includes a driver (20) supported by the handle, a reciprocating member (184) in driving communication with the driver and positioned for reciprocation in the mixing module, a first and second valve assembly (78, two assemblies) and a first and second valve housing (16) receiving the first and second valve assembly with the first and second valve housings extending rearwardly off of a first and second side of a main body portion of the manifold such that the first and second valve housings are rearward of a rearward end of the mixing module (Fig. 3), a first and second dispense material hose fitting (76) in dispense material communication with the first and second valve housings. The first valve assembly is in communication with a first material passageway (64) in the manifold and the second valve assembly is in fluid communication with a second material passageway (66) located in the manifold.

Cherfane fails to show an elongated heater cartridge received with an access cavity in the manifold extending essentially parallel with the first and second material passages and configured to maintain a desired dispense material temperature.

Bezaire shows a hand held dispenser (Fig. 1), comprising a handle (14), a dispense material manifold (38), a first material passageway (66), a second material passageway (66) and an elongated heater cartridge (118, Col. 13, ll. 63-64) received with an access cavity in the manifold extending essentially parallel with the first and second material passages (Fig. 5) and configured to maintain a desired dispense material temperature with a sensor and a controller (Col. 13, ll. 53-61).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the dispenser of Cherfane with an elongated heater cartridge as taught by Bezaire so that heat energy is not dissipated from the reactant fluid streams, thus maintaining the reactant fluid at a suitable reaction temperature so that the first shot emanating from the mixing chamber is useable (Bezaire, Col. 13, ll. 4-53).

Regarding claims 2 and 3, Cherfane shows that each of the first and second valve housings has a forward end that lies rearward of a rearward end of said mixing module (Fig. 3) and the manifold main body portion includes a pair of manifold wing extensions (116, 118) positioned to opposite sides of the mixing module and each having a dispense material feed passageway section (120, 122) feeding to the mixing module, and each wing extension being connected, at an upstream end of the wing extensions with respect to dispense material flow, with a respective one of the first and second valve housings (at 58, 60).

Regarding claim 5, Cherfane shows that the main body portion includes a forward, central mixing module reception recess section (formed by 52) and wherein the wing extensions have inwardly sloping interior walls that partially define the mixing module reception recess section (Fig. 3).

Regarding claim 9, Cherfane shows that the first and second valve assemblies include valve shut off handles (78) that are hand operable by an operator free of tools.

Regarding claim 12, Cherfane shows that the reciprocating member is a valve rod (184) that reciprocates in the mixing module and the dispense material includes a first and a second type of foam precursor chemical (Col. 1, ll. 16-27) with the first type supplied via a first hose connected to the first fitting and the second type supplied via a second hose connected to the second fitting and the first and second types being mixed within the mixing module upon retraction of the valve rod and just before exiting the dispenser outlet (Col. 20, ll. 15-21).

Regarding claim 18, Cherfane shows that each chemical flow passageway has a main passageway section that extends along a common axis of elongation from a hose fitting inlet point to a point representing a divergence off into a chemical passageway section providing a direct feed to the mixing module which common axis is essentially parallel with an axis of elongation of said reciprocating member (see Fig. 3).

Regarding claims 43 and 44, Cherfane discloses assembling and using the foam dispenser as discussed above.

Regarding claim 45, Bezaire teaches maintaining a desired temperature with a temperature sensor and a control unit (Col. 13, ll. 53-61) but is silent with respect to the

temperature maintained. However, it would have been with the skill of a worker in the art to select a proper temperature for a suitable reaction and maintain that temperature.

3. Claims 1, 2, 6-10, 13, 14, 19, 20, 43, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,215,226 to Bertram et al. (Bertram) in view of Bezaire and U.S. Patent No. 5,529,245 to Brown.

Bertram shows a hand held dispenser (Fig. 1), comprising a handle (Fig. 1), a dispense material manifold (10) supported by the handle having a trigger in an hollow upper region (Fig. 1), and a dispense material mixing module (21) supported at a forward dispensing end of the manifold. The mixing module has a dispense material passageway (within 21) that opens out to a dispenser outlet (end of 21). The dispenser includes a driver (13) supported by the handle, a reciprocating member (35) in driving communication with the driver and positioned for reciprocation in the mixing module, a first and second valve assembly (16, 17) and a first and second valve housing (20) receiving the first and second valve assembly, and a first and second dispense material hose fitting (25) in dispense material communication with the first and second valve housings. The first valve assembly is in communication with a first material passageway (16) in the manifold and the second valve assembly is in fluid communication with a second material passageway (17) located in the manifold.

Bertram fails to show an elongated heater cartridge received with an access cavity in the manifold extending essentially parallel with the first and second material passages and configured to maintain a desired dispense material temperature.

Bezaire shows a hand held dispenser (Fig. 1), comprising a handle (14), a dispense material manifold (38), a first material passageway (66), a second material passageway (66) and an elongated heater cartridge (118, Col. 13, ll. 63-64) received with an access cavity in the manifold extending essentially parallel with the first and second material passages (Fig. 5) and configured to maintain a desired dispense material temperature with a sensor and a controller (Col. 13, ll. 53-61).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the dispenser of Bertram with an elongated heater cartridge as taught by Bezaire so that heat energy is not dissipated from the reactant fluid streams, thus maintaining the reactant fluid at a suitable reaction temperature so that the first shot emanating from the mixing chamber is useable (Bezaire, Col. 13, ll. 4-53).

Bertram fails to disclose that the first and second valve housings extend rearwardly off of a first and second side of a main body portion of the manifold such that the first and second valve housings are rearward of a rearward end of the mixing module.

Brown shows a hand held dispenser (Fig. 1) with a handle (14), a dispense manifold (12), a mixing module (21) and first and second valve assemblies (86, 88) with housings (90, 92) that extend rearwardly off of a first and second side of a main body portion of the manifold such that the first and second valve housings are rearward of a rearward end of the mixing module (Fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the valve housing of Bertram to extend rearwardly off the main body behind the mixing module as taught by Brown as an obvious design choice to achieve the desired appearance, weight distribution and shape of the dispenser, especially since it

has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claim 2, Bertram as modified by Brown results in each of the first and second valve housings having a forward end that lies rearward of a rearward end of said mixing module (Fig. 1 of Brown).

Regarding claims 6-8, Bertram shows a mixing module fastening means (22) that pushes down the mixing module into a reception recess section in fastening the mixing module to the manifold, includes one or more screw fasteners (33) that extend through the manifold and into threaded engagement with a threaded screw reception portion (32) of the manifold and a combination male projection portion (42) and female side wall configuration (43) conforming to said male projection portion in a contact region between said mixing module and manifold. Bertram fails to specifically disclose that the fastening means is positioned on an underside of the mixing module or that the screw fasteners screw into the bottom of the mixing module, however, it would have been an obvious design choice to one having ordinary skill in the art at the time the invention was made to have rearranged the fastening means of Bertram and replaced the claim structure with a direct attachment to reduce parts and achieve the desired appearance.

Regarding claims 9 and 10, Bertram shows that the first and second valve assemblies include valve shut off handles (24) that are hand operable by an operator free of tools and include a rotating head with rotation limiting means (22) and an elongated handle which extends in a common direction of elongation as that of an adjacent combination of valve housing and hose fitting (Fig. 6).

Regarding claims 12 and 13, Bertram shows that the reciprocating member is a valve rod that reciprocates in the mixing module and the dispense material includes a first and a second type of foam precursor chemical (Col. 6, ll. 10-12) with the first and second types being mixed within the mixing module upon retraction of the valve rod and just before exiting the dispenser outlet (Col. 6, ll. 10-12). The device includes a drive train system which is positioned so as to convey drive from the driver to the reciprocating member (col. 6, ll. 8-10) and which includes a transmission housing (11). Bertram fails to disclose that the housing is received within a common central, axially elongated recessed section in the manifold which also receives the mixing module, and wherein the transmission housing has a common exterior configuration as that of a housing of the mixing module and is in contact with a rear end of the mixing module as to provide an essentially non-stepped interface which helps avoid contaminate build up. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the device of Bertram in the specified configuration as an obvious design choice to achieve the desired appearance, weight distribution and shape of the dispenser.

Regarding claim 15, Bertram discloses that the drive train is a ball screw transmission and a gear train (Col. 6, ll. 8-10) but is silent with respect to the length of the central axis of the drive shaft. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the ball screw of Bertram as modified by Brown with a length less than 1.5 inches to achieve the desired stroke length, especially since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 204 USPQ 215 (CCPA 1980).

Regarding claim 20, Bertram discloses that the reciprocating member is a mixing module valving rod, the driver is an electric motor, and the dispenser further comprises a drive transmission assembly transmitting drive from said driver to said rod which transmission assembly includes a gear train set (Col. 6, ll. 8-12). Bertram is silent with respect to the gear train set consisting of only a first and second gear in meshing contact and with said first gear being in direct engagement with a drive shaft of the motor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have designed the gear train set of Bertram with two gears to achieve the desired gear ratio and to minimize weight and number of parts.

Regarding claims 43 and 44, Bertram discloses assembling and using the foam dispenser as discussed above.

Regarding claim 45, Bezair teaches maintaining a desired temperature with a temperature sensor and a control unit (Col. 13, ll. 53-61) but is silent with respect to the temperature maintained. However, it would have been with the skill of a worker in the art to select a proper temperature for a suitable reaction and maintain that temperature.

4. Claims 1, 2, 9, 12, 19, and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,552,847 to Hayduk in view of Brown.

Hayduk shows a hand held dispenser (Fig. 2), comprising a handle (48), a dispense material manifold (54) supported by the handle having a trigger in an hollow upper region (Fig. 2), and a dispense material mixing module (Fig. 5) supported at a forward dispensing end of the manifold. The mixing module has a dispense material passageway (within 100) that opens out to

a dispenser outlet (end of 108). The dispenser includes a driver (Col. 16, ll. 36-40) supported by the handle, a reciprocating member (118) in driving communication with the driver and positioned for reciprocation in the mixing module, a first and second valve assembly (64, 66) and a first and second valve housing (see Fig. 2) receiving the first and second valve assembly, and a first and second dispense material hose fitting (60, 62) in dispense material communication with the first and second valve housings. The first valve assembly is in communication with a first material passageway (within 54) in the manifold and the second valve assembly is in fluid communication with a second material passageway (within opposite side of 54 of first passageway) located in the manifold.

Hayduk fails to show an elongated heater cartridge received with an access cavity in the manifold extending essentially parallel with the first and second material passages and configured to maintain a desired dispense material temperature.

Bezaire shows a hand held dispenser (Fig. 1), comprising a handle (14), a dispense material manifold (38), a first material passageway (66), a second material passageway (66) and an elongated heater cartridge (118, Col. 13, ll. 63-64) received with an access cavity in the manifold extending essentially parallel with the first and second material passages (Fig. 5) and configured to maintain a desired dispense material temperature with a sensor and a controller (Col. 13, ll. 53-61).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the dispenser of Hayduk with an elongated heater cartridge as taught by Bezaire so that heat energy is not dissipated from the reactant fluid

streams, thus maintaining the reactant fluid at a suitable reaction temperature so that the first shot emanating from the mixing chamber is useable (Bezaire, Col. 13, ll. 4-53).

Hayduk fails to disclose that the first and second valve housings extend rearwardly off of a first and second side of a main body portion of the manifold such that the first and second valve housings are rearward of a rearward end of the mixing module.

Brown shows a hand held dispenser (Fig. 1) with a handle (14), a dispense manifold (12), a mixing module (21) and first and second valve assemblies (86, 88) with housings (90, 92) that extend rearwardly off of a first and second side of a main body portion of the manifold such that the first and second valve housings are rearward of a rearward end of the mixing module (Fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the valve housing of Hayduk to extend rearwardly off the main body behind the mixing module as taught by Brown as an obvious design choice to achieve the desired appearance, weight distribution and shape of the dispenser, especially since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claim 2, Hayduk as modified by Brown results in each of the first and second valve housings having a forward end that lies rearward of a rearward end of said mixing module (Fig. 1 of Brown).

Regarding claim 9, Hayduk shows that the first and second valve assemblies include valve shut off handles (see Fig. 2, handles on 64, 66) that are hand operable by an operator free of tools.

Regarding claim 12, Hayduk shows that the reciprocating member is a valve rod (118) that reciprocates in the mixing module and the dispense material includes a first and a second type of foam precursor chemical (Col. 1, ll. 62-67 and Col. 2, ll. 3-22) with the first and second types being mixed within the mixing module upon retraction of the valve rod and just before exiting the dispenser outlet (in 112).

Regarding claim 42, Hayduk shows that the mixing module includes a housing with a solvent access port (128) leading to a plurality of solvent volume expansion cavities (228) in an interior wall surface of the housing separated by interior component retention ridges (226).

Regarding claims 43 and 44, Hayduk discloses assembling and using the foam dispenser as discussed above.

Regarding claim 45, Bezair teaches maintaining a desired temperature with a temperature sensor and a control unit (Col. 13, ll. 53-61) but is silent with respect to the temperature maintained. However, it would have been with the skill of a worker in the art to select a proper temperature for a suitable reaction and maintain that temperature.

5. Claims 4, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherfane in view of Bezair.

The Cherfane-Bezair combination shows all aspects of the applicant's invention as set forth in claims 1 and 3, but fails disclose that the wing extensions have forwardly converging side edges and downwardly sloped upper surfaces. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the wing extensions of Bertram as modified by Bezair with forwardly converging side edges and

downwardly sloped upper surfaces as an obvious design choice to achieve the desired appearance, weight distribution and shape of the dispenser.

Regarding claim 10, Cherfane shows that the shut off valves include a rotating head (78) with rotation limiting means (top of 78 is bent over to limit rotation) and an elongated handle but fails to show that the handle extends in a common direction of elongation as that of an adjacent combination of valve housing and hose fitting. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the handle of Cherfane in the same direction as the valve housing and hose fitting as an obvious design choice to achieve the desired appearance, weight distribution and shape of the dispenser.

6. Claims 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram in view of Bezaire and Brown as applied to claim 13 above, and further in view of U.S. Patent No. 3,389,727 to Feldpausch.

Bertram as modified by Bezaire and Brown shows all aspects of the applicant's invention as set forth in claim 13 and further discloses that drive train includes a ball screw transmission (Bertram, Col. 6, ll. 8-10) but fails to disclose the pitch angle of the ball screw. Feldpausch discloses that the pitch angle of the ball screw can determine the magnitude of axial thrust (Col. 3, ll. 39-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have manufactured the ball screw of Bertram as modified by Bezaire and Brown with a pitch angle of less than 9 degrees to achieve a desired amount of axial thrust as taught by Feldpausch, especially since it has been held that discovering an optimum value of a

result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 204 USPQ 215 (CCPA 1980).

***Response to Arguments***

7. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.
8. The applicant argues that it would not have been obvious for one having ordinary skill in the art to have manufactured the pitch angle to be less than 9 degrees because the prior art does not address the problem of free wheeling. This is not found persuasive since there are other benefits to low pitch angles, namely a low pitch angle allow for use of less powerful motors.
9. Regarding applicant's argument that the withdrawn claims should be rejoined since they now depend from claim 1, it is noted that the applicant has already received an action on the merits of the claims that have been elected without traverse. Therefore, the claims will remain withdrawn and have not been examined on the merits. However, should claim 1 become allowable, any claim dependent from it would be rejoined and allowed.
10. Regarding claim 42, applicant's arguments were persuasive and the claim has been rejoined and examined.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL R. SHEARER whose telephone number is (571)270-7416. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571)272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. R. S./  
Examiner, Art Unit 3754

/KEVIN P. SHAVER/  
Supervisory Patent Examiner, Art Unit  
3754